T. W. KELLY.

REINFORCED CONCRETE CURB STRUCTURE.

APPLICATION FILED JAN. 15, 1919.

1,331,265.

Patented Feb. 17, 1920.

3 SHEETS—SHEET 1.

FIG. 1

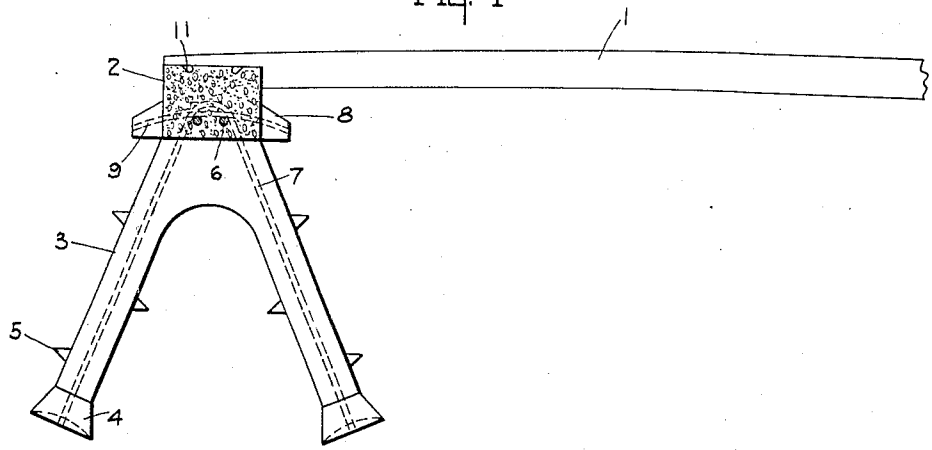


FIG. 2

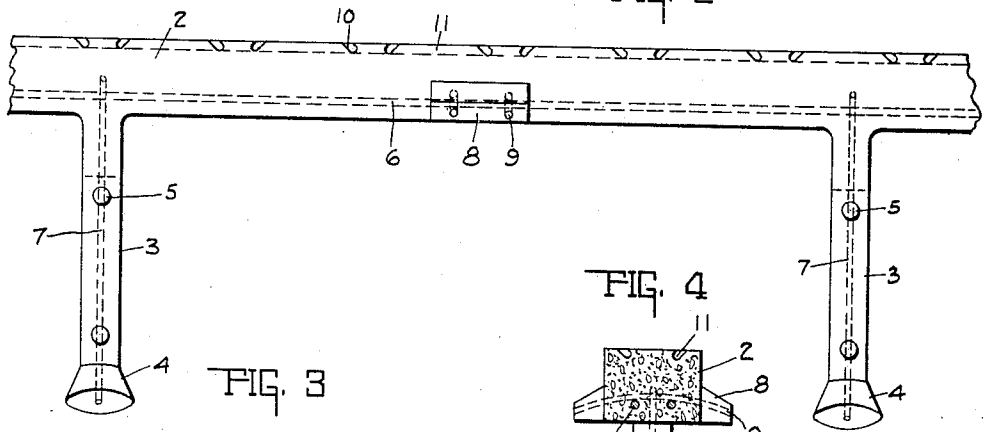


FIG. 3

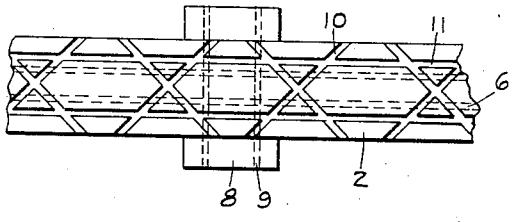
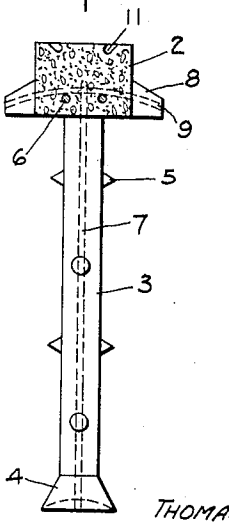


FIG. 4



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3 SHEETS—SHEET 2.

FIG. 5

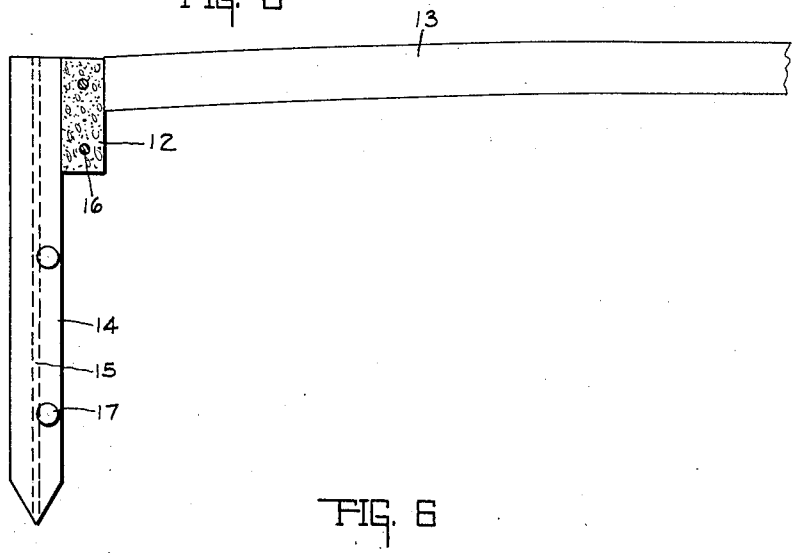


FIG. 6

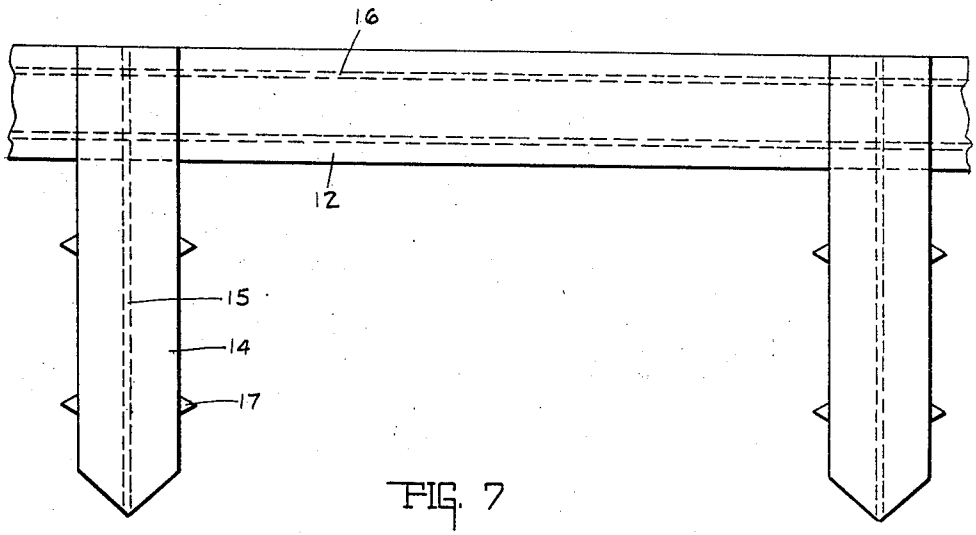
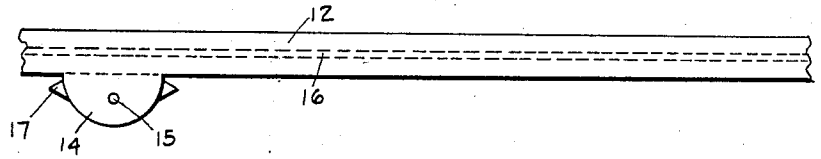


FIG. 7



WITNESS:

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3 SHEETS—SHEET 3.

FIG. 8

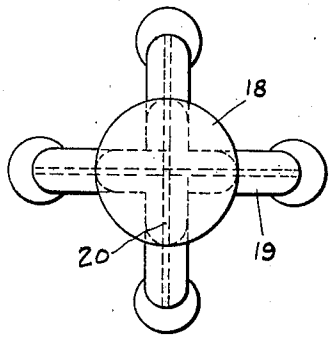


FIG. 9

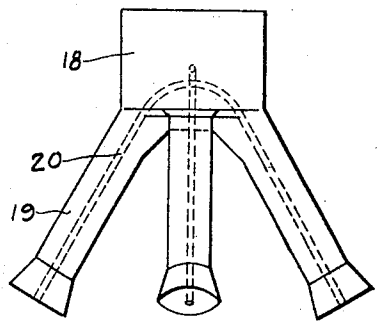


FIG. 10

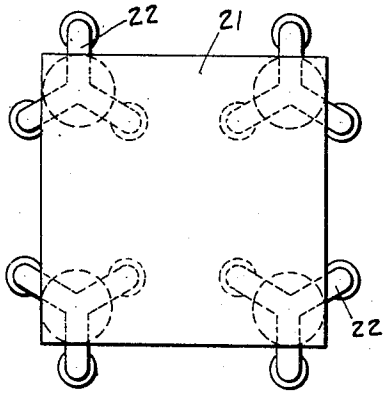
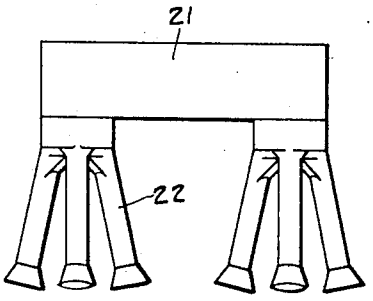


FIG. 11



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REINFORCED-CONCRETE CURB STRUCTURE.

1,331,265. Specification of Letters Patent. **Patented Feb. 17, 1920.**

Application filed January 15, 1919. Serial No. 271,213.

To all whom it may concern:

Be it known that I, THOMAS W. KELLY, a citizen of the United States, and a resident of Indianapolis, county of Marion, and State of Indiana, have invented a certain new and useful Reinforced-Concrete Curb Structure; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like numerals refer to like parts.

This invention relates to reinforced concrete curb structures and is designed primarily for use in connection with roadway and street surfaces and the like.

The prime feature of the invention is in providing supporting legs for the curb structure whereby the common expedient of forming an enlarged and expensive base for supporting the curb and holding the same in true alinement, is dispensed with.

A further feature of the invention is in so constructing the supporting legs and curb that said parts will be integral and form a monolithic structure.

A further feature of the invention is the provision of reinforcing members which are embedded in the concrete structure and which prevent cracking and disintegration of the parts.

A further feature of the invention is in so positioning the supporting legs that they will resist strain in all directions.

A further feature of the invention is in so forming the openings to receive the legs that projections will be formed on parts of the legs when formed which serve as anchors.

A further feature of the invention is in so constructing the top surface of the curb that the road surfacing material will interlock with the top of the curb when placed thereover and hold the surfacing material against creeping action.

In addition to employing the legs for supporting the curb structure they may be arranged to support platforms upon which heavy machinery may be placed and also columns upon which posts or the like may be supported.

In the drawings, which are made a part of this application, Figure 1 is a transverse sectional view through a curb showing the same applied to use. Fig. 2 is a side elevation thereof. Fig. 3 is a top plan view of a portion of the curb. Fig. 4 is a view similar to Fig. 1 showing a single supporting leg for the curb. Fig. 5 is a modified form of curb structure such as is used primarily for holding brick surfaces in position. Fig. 6 is a side elevation thereof. Fig. 7 is a top plan view thereof. Fig. 8 is a top plan view of a post or pole supporting base. Fig. 9 is a side elevation thereof. Fig. 10 is a top plan view of a base such as is used for supporting heavy machinery or the like and Fig. 11 is a side elevation thereof.

Referring to the drawings, in which similar reference numerals designate corresponding parts throughout the several views, 1 indicates surfacing material such as is commonly used in constructing roadways, and particularly in country districts, and 2 indicates the curb which is positioned along the edges of the roadway to hold the material forming the roadway and surfacing material in proper position, said curb being preferably constructed of a composition of matter such as concrete or the like.

Heretofore it has been customary to form an enlarged base portion on the curb structure in order to properly hold the same in alinement and against lateral movement, thus entailing a great deal of expense, and at the same time not producing an entirely satisfactory structure. In the present instance the curb proper is merely of sufficient depth to properly retain the surfacing material in position, and is supported and maintained in perfect alinement by means of integral supporting legs 3, which are likewise formed of the same material of which the curb is formed, and as these parts are constructed at one operation a perfect monolithical structure is produced. There are preferably two or more legs grouped together and said legs are disposed at an angle to each other so as to produce a brace against each other, and thus resisting strain from any direction which may be directed against the curb, or as shown in Fig. 4 of the drawings where the curb is so constructed as to receive very slight strain a single post may be provided, in which instance the post preferably descends in a straight line from the curb. The legs 3 are preferably provided with enlarged conical bases 4, and the surfaces thereof are preferably provided with one or more projections 5 which serve to anchor the legs and prevent longitudinal movement thereof.

The curb 2 and the legs 3 are additionally reinforced by introducing rods 6 lengthwise of the curb and placing similar rods 7 in the leg portions, said rods being embedded in their coöperating parts, and when the curb is provided with two or more legs the rod 7 is bent so as to extend into two of the legs, the upper connecting portion thereof extending over the rods 6 embedded in the curb. The curb 2 is additionally reinforced at a point midway between the sets of legs by forming lateral extensions 8 on the side faces of the curb, and transversely through the curb and through the lateral extension reinforcing rods 9 are placed.

It has been found in practice that the surfacing material, such as asphalt or the like, has a tendency to creep or spread out, due to various causes, and to overcome this objectionable feature the top surface of the curb is provided with a plurality of channels 10 and 11, the channels 10 preferably extending diagonally across the top surface of the curb and in opposite directions, while the channels 11 extend parallel and longitudinally of the curb, although it will be understood that said channels may be arranged in any preferred manner. In order to positively interlock the surfacing material with the curb, the channels are preferably formed at an angle in cross section to the vertical plane of the curb, thus providing a substantially dove tail groove, and as the surfacing material is placed over the roadway or the curb while in a softened state, portions thereof will enter the channels and when it becomes set or hard will positively interlock with the channels, owing to the overhanging wall of each channel, thus securing a dove tail connection between the top of the curb and the surfacing material and rendering it impossible for the surfacing material to become loosened from the curb or to have creeping or other movement thereon.

In Figs. 5, 6 and 7 a form of curbing such as is to be used for holding brick surfaces or the like in position is shown and in this instance the curb proper 12 is preferably shaped similar to a plank and is placed edgewise to the surfacing material 13, and is supported by forming posts 14 integral with the curb 12. The posts 14 are preferably semicircular in cross section and reinforced by means of rods 15, while the curb 12 is likewise reinforced by means of rods 16, and the posts are also preferably provided with anchoring projections 17.

In Figs. 8 and 9 a structure such as is employed for supporting columns, posts, telegraph poles and the like is shown, consisting of a circular base 18 from which radiate legs 19, and in this instance each base is provided with four of the legs, although a greater or less number may be employed if preferred, and the legs having reinforcing rods 20 the same as shown in the other structures.

In Figs. 10 and 11 a platform or foundation structure 21 is shown such as is employed for supporting heavy machinery and the like, and in this instance a number of legs 22 are shown at each corner of the platform, said legs serving to support the platform and to hold the same against lateral movement.

In constructing the curb, particularly that form shown in Figs. 1 to 4 inclusive, the gravel or macadam road bed is first properly shaped and rolled until the proper plane or level has been reached, or until it has been properly shaped to receive the usual surfacing material. The parts of the roadway upon which the curb proper is to rest is given an additional rolling until this part of the surface is in a plane below the remaining portion of the road surface, when holes are driven or formed to receive the leg portions of the curb, suitable tools being employed for this operation, and such tools may be so arranged as to make the spaces in which the base portions and projections on the legs will extend if such are desired. A frame for forming the curb is then placed on the rolled surface and the reinforcing rods entered into position, after which the material of which the curb and legs is formed is poured into the mold and into the openings made to form the legs of the curb, and as said material is in a plastic condition, parts thereof will enter the enlarged portion of said holes and form the flanged base and the projections on the legs, consequently when the material hardens, the leg portions will be firmly anchored in the ground.

As previously stated, there are preferably two or more legs grouped together and these legs are disposed at an angle to each other and to the curb proper, consequently said legs will form a perfect anchor for the curb and prevent any movement thereof incident to strain or otherwise. After the curb is properly set or solidified, the roadway is constructed between the curb and the surfacing material then applied thereto, said surfacing material, when placed over the top of the curb, interlocking with the channels therein, and if desired these channels may be formed on the surface of the roadway proper so that the surfacing material will be interlocked throughout the extent of the roadway.

It will be fully understood, of course, that this improved supporting and bracing means may be utilized in connection with various other structures than those shown without in any manner departing from the scope of this invention.

The invention claimed is:

1. A monolithic structure including a

body portion, a plurality of supporting legs integral with the body portion and said legs being disposed at various angles for resisting the strain from all directions.

2. A curb structure, including a curb proper, and two or more integral legs depending therefrom and at opposed angles, said legs being arranged to resist strain on said curb from either direction.

3. A curb structure including a curb proper, integral legs depending from the curb and arranged in pairs, said legs extending outwardly at an angle to the vertical plane of the curb and at an opposed angle to each other, and a reinforcing rod extending lengthwise of said legs and through the curb and embedded therein.

4. A curb structure, including a curb proper, legs integral therewith and depending therefrom, and anchoring projections formed on the exterior surfaces and lower ends of said legs.

In witness whereof I have hereunto affixed my signature.

THOMAS W. KELLY.